(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization International Bureau

NIPO-OMPI-

(43) International Publication Date 13 May 2004 (13.05.2004)

PCT

(10) International Publication Number WO 2004/040182 A1

(51) International Patent Classification⁷: B65H 51/14, H02G 1/06, E21B 19/22

F16L 1/23,

(21) International Application Number:

PCT/GB2003/004697

(22) International Filing Date: 31 October 2003 (31.10.2003)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

0225496.9

1 November 2002 (01.11.2002) G

(71) Applicant (for all designated States except US): THE ENGINEERING BUSINESS LIMITED [GB/GB]; Broomhaugh House, Riding Mill, Northumberland NE44 6EG (GB).

(72) Inventor; and

- (75) Inventor/Applicant (for US only): GRINSTED, Timothy, William [GB/GB]; Beaumont House, Stocksfield, Northumberland NE43 7TN (GB).
- (74) Agent: HARRISON GODDARD FOOTE; Belgrave Hall, Belgrave Street, Leeds LS2 8DD (GB).

(81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

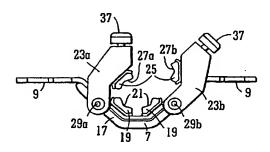
(84) Designated States (regional): ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: LONGITUDINAL LOAD VARYING DEVICE FOR ELONGATE MEMBERS



(57) Abstract: A tensioner for deploying a member such as a pipe or cable, such as a sub-sea cable deployed from a ship, comprises an endless track and drive means for driving the track. The track includes a plurality of traction elements mounted thereon for movement with the track. Each traction element includes one or more cushions for supporting the member, and a pair of opposed arms mounted on respective sides of the base of the traction element. One or more of the arms is pivotally mounted for movement between a clamping position and a release position. In an alternative arrangement, four moveable arms are linked in diametrically opposite pairs to move between a release position and a clamping position. Cushions on the arms clamp the member in conjunction with the cushions of the traction element, when the arms are in the clamping position. Guide means are provided to urge the arms into the clamping position to grip the member as it passes through the tensioner.

VO 2004/040182 A1